



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,687	03/24/2004	Motohiko Otsuki	9281-4776	4414

7590 09/26/2005

Brinks Hofer Gilson & Lione
P.O. Box 10395
Chicago, IL 60610

EXAMINER

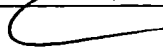
ZIMMERMAN, JOHN J

ART UNIT	PAPER NUMBER
----------	--------------

1775

DATE MAILED: 09/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/807,687	Applicant(s)  OTSUKI, MOTOHIKO	
	Examiner John J. Zimmerman	Art Unit 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20040324</u> . | 6) <input type="checkbox"/> Other: ____. |

FIRST OFFICE ACTION

Preliminary Amendment

1. The Preliminary Amendment filed with this application has been entered.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings filed with this application are not objected to.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Okada (Japanese publication 2000-323731).

Art Unit: 1775

6. Okada (e.g. see Figure 1) discloses a package for an optical semiconductor element wherein the package has a window frame (3) for an optical fiber fitting and wherein the package is plated with an inner nickel adhesion layer, a gold outer layer and an intermediate palladium barrier layer to prevent diffusion of nickel layer into the gold layer (e.g. see paragraph [0024]).

7. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki (Japanese publication 11-232950).

8. Suzuki discloses a stainless steel base plated with an inner nickel adhesion layer, a gold outer layer and an intermediate palladium layer (e.g. see Table 1 in paragraph [0016]). The palladium layer of Suzuki is inherently a barrier between the nickel and gold layers.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's disclosure of the prior art in view of Okada (Japanese publication 2000-323731) and further in view of Ohmori (U.S. Patent 5,150,376).

Art Unit: 1775

11. Applicant discloses that in the past, lens barrels were plated with nickel and then a layer of gold, but that when the plated lens barrels were exposed to high temperatures, migration of the nickel occurred (e.g. see "Description of the Related Art", pages 1-4 of the specification).

Applicant's description of the prior art differs from the claims in that the pending claims require a Group 8A barrier layer between the nickel and gold layers to prevent diffusion of nickel into the gold layer. Okada, however, discloses that it is already well known in the prior art that a palladium barrier layer should be used between a nickel layer and a gold layer to prevent diffusion of nickel into the gold layer (e.g. see paragraph [0024]). Okada's disclosure is in the field of optical packaging (e.g. see claim 1 of Okada) which is the same field as applicant's disclosed prior art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a palladium barrier layer between the nickel and gold layers of applicant's disclosed prior art because Okada discloses that it is already known in the art that an intermediate palladium barrier layer will prevent detrimental diffusion of nickel into the gold layer. Claims 2 and 5 differ from Okada's palladium barriers in that they recite a rhodium barrier layer. Rhodium and palladium are understood by those skilled in the prior art to have such similar properties that they are commonly grouped together as "palladium group" elements. It must be assumed that one of ordinary skill in the art understands the basic properties and associations of the elements of the periodic chart. It would have been obvious to one of ordinary skill in the art to alternatively use elements of such groupings with a reasonable expectation of the same or similar results. Obviousness does not require absolute predictability of success; instead, all that is required is there be a reasonable expectation of success. *In re O'Farrell*, 7

Art Unit: 1775

USPQ2d 1673, 1681 (Fed. Cir. 1988). Regarding claims 3 and 6 to a stainless steel substrate, Okada discloses that Fe-Ni-Co alloys may be used (e.g. see paragraph [0014]) and it would be understood by one of ordinary skill in the art that Fe-Ni-Co alloys include stainless steels. In any event, Ohmori is cited to clearly show that the base material for lens barrels in the prior art is typically stainless steel (e.g. see column 2, lines 42-54; column 5, lines 21-30). In view of Ohmori, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use stainless steel as the base material for the applicant's disclosed prior art lens barrels because Ohmori clearly shows that stainless steel is a typical base material for this use. Regarding the use of applicant's disclosure of the prior art in this rejection, it is axiomatic that consideration of the prior art cited by the examiner must, of necessity, include consideration of the admitted state of the art found in applicant's specification, *In re Davis*, 305 F.2d 501, 134 USPQ 256 (CCPA 1962); *In re Hedges*, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986). Admitted knowledge in the prior art may be used in determining patentability of the claimed subject matter, *In re Nomiya*, 509 F.2d 566, 184 USPQ 607 (CCPA 1975).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional prior art was made of record to further establish the level of ordinary skill in the art at the time the invention was made. Nishida (JP 60-070171) shows how palladium and rhodium are considered alternative barrier materials over nickel layers in the prior art (e.g. see abstract). Narizuka (U.S. Patent 4,806,725) additionally shows how palladium and rhodium are considered alternative barrier materials in the prior art (e.g. see column 2, lines 1-4).

Art Unit: 1775

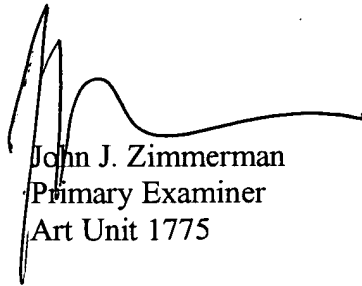
Iacovangelo (U.S. Patent 5,206,055) states that palladium is used as a barrier to underlying base metals, e.g. nickel, to reduce the diffusion of such base metals into the grain boundaries of gold layers (e.g. see column 2, last paragraph). Ling (U.S. Patent Application Publication 2002/0096765) discloses that a palladium barrier layer prevents diffusion of nickel into gold during thermal cycles (e.g. see the abstract). Matsumoto (JP 2000-022027) discloses that a palladium barrier layer prevents diffusion of nickel into gold (e.g. see the abstract). Test (U.S. Patent 6,616,967) discloses that a palladium barrier layer prevents up-diffusion of nickel into a gold layer (e.g. see column 4, lines 25-29).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Zimmerman whose telephone number is (571) 272-1547. The examiner can normally be reached on 8:30am-5:00pm, M-F. Supervisor Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/807,687
Art Unit: 1775

Page 7



John J. Zimmerman
Primary Examiner
Art Unit 1775

jjz
September 16, 2005